



ALLIED VEHICLE TESTING PUBLICATIONS

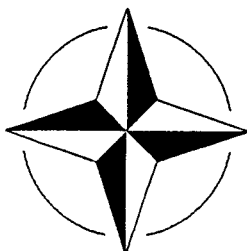
TRIAL SERIES 12

INTEROPERABILITY

AVTP	TEST TITLE
12 - 10	Collecting and Reporting of Interoperability Data

ALLIED  
VEHICLE TESTING  
PUBLICATION

AVTP : 12-10  
EDITION NO.: FINAL  
DATE : SEP. 1991



NATO INTERNATIONAL STAFF-DEFENCE SUPPORT DIVISION

TRIAL SERIES : INTEROPERABILITY

TEST TITLE : COLLECTING AND REPORTING OF  
INTEROPERABILITY DATA

REFERENCE : STANAG 4357  
STANAG 4358  
LIST OF STANAGs and  
APs (DS/STAN-2, April 1988)

EQUIVALENT :

FOR COMPLIANCE  
WITH : -

ABSTRACT : This AVTP indicates procedures  
for conducting and evaluating the  
technical inter operability of  
vehicles.

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NORTH ATLANTIC TREATY ORGANISATION  
MILITARY AGENCY FOR STANDARDIZATION (MAS)

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6. Any ratifying nation may issue supplemental testing information to amplify or clarify these procedures, but in no case will such information contravene the provisions of this AVTP. If a ratifying nation must deviate from a provision of this AVTP due to constraints such as available facilities, national regulations, instrumentation accuracies, etc., the test methods used will be described in the report. However, such deviation may cause nonacceptance of test data by other nations.

FOR THE MILITARY AGENCY OF STANDARDIZATION

(Signature)

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RECORD OF CHANGES, AMENDMENTS AND RESERVATIONS \*)

Identification of Change or Amendment and Reg.No.(if any) and date	Date Entered	NATO Effective Date	By whom entered Signature, Rank, Grade or Rate, Name of Command

\*) See Reservations Overleaf

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Trial Series: INTEROPERABILITY

Test Title : COLLECTING AND REPORTING OF  
INTEROPERABILITY DATA

- Paragraph 1. SCOPE
2. FACILITIES AND INSTRUMENTATION
3. REQUIRED TEST CONDITIONS
- 3.1 Test Vehicle
- 3.2 Test Courses
4. TEST PROCEDURE
5. DATA REQUIRED
6. PRESENTATION OF DATA

ANNEX A: List of STANAGs and relevant AVTP's

ANNEX B: List of APs an relevant AVTP's

ANNEX C: Abbreviations used in ANNEXES  
A and B

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1. SCOPE

This AVTP describes procedures for conducting and evaluating tests of the technical interoperability<sup>\*)</sup> of combat and transport vehicles. Those areas are indicated but not restricted by

- STANAG's
- AP's
- European and/or US regulations

or

- geometrical compatibility (e.g. truck and trailer)
- use of POL and cooling lubricants
- use of ammunition
- electrical system of vehicles
- communication system

2. FACILITIES AND INSTRUMENTATION

As required by the relevant AVTP or by the test plan.

3. REQUIRED TEST CONDITIONS

3.1 Test Vehicle

Ensure that:

- a. The vehicle is prepared and equipped to the standard anticipated for operations or as specified by the test plan.
- b. The vehicle is operating within specifications. Give particular attention to those parts or consumables which are important for the area of technical interoperability.

<sup>\*)</sup>According to Allied Administrative Publication 6 (AAP-6) INTEROPERABILITY is "The ability of systems, units or forces to provide service to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together".

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3.2 Test Courses

As specified by relevant AVTP's or by the test plan.

4. TEST PROCEDURE

Relevant AVTP's (see Annex A, B) are to be used, when applicable. Areas not covered by AVTP's must be defined in the test plan and annexed to the report.

5. DATA REQUIRED

- a. List of incompatibilities with description of their effects including safety hazards.
- b. Photos or drawings, showing the problem areas.
- c. Explanation of malfunctions.
- d. Test Plan.

6. PRESENTATION OF DATA

Present the required data in narrative, tabular, graphical, pictorial or other format as appropriate.

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ANNEX A: List of STANAGs and relevant AVTP's

<u>STANAG</u>	<u>TITLE</u>	<u>RELEVANT AVTPS</u>
2021	Military Load CLASSIFICATION	00-07 12-10
2023 MMS	Marking of Military Cargo for International Movement by all International Means of Transport	06-10 06-20 06-30
2138 MMS	Troop Trial Procedures - Combat Clothing and Equipment	09-60 09-80 09-100
2338 LAND	NATO Infra-Red Reflective (IRR) Green Colour for Painting Military Equipment	05-20
2601 MMS	Standardization of Voltage of Electrical Systems in Tactical Vehicles	08-10 08-20
2604 MMS	Braking Systems between Tractor, Draw-Bar Trailer and Semi-trailer Equipment Combinations for Military Use	03-40
2805 LAND	Minimum Fordability and Flotation Requirements for Tactical Vehicles and Guns, and Minimum Immersion Requirements for Combat Equipment Normally Installed or Carried in Open Vehicles or Trailers for Mobile Equipment	01-50 03-110 03-120
2831 LAND	Climatic Environmental Conditions Affecting the Design of Material for Use by NATO Forces Operating in a Ground Role	03-20 03-130 09-60 10-10
2835 LAND	Ranges of NATO Ultraviolet Reflecting (UV) White Colour and Permissible Variations for the Camouflage of Military Equipment in Snow Environments	05-10 05-60
2895 MMS	Extreme Climatic Conditions and Derived Conditions for Use in Defining Design / Test Criteria for NATO Forces Materiel	03-130 10-10

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STANAG	TITLE	RELEVANT AVTPS
2914 MMS	Implementation of the Allied Environmental Publication 1 (AECF-1)	03-130 10-30
4006 MMS	Pt I Shielded Sparking Plugs (for 5 mm lead) for Wheeled Tactical Vehicles Pt II Shielded Ignition Cables for Wheeled Tactical Vehicles	08-10 08-20
4007 MMS	Electrical Connectors between Tractors and Trailers	08-10
4009 MMS	Pt I Fifth Wheel Kingpin (for Semi-trailers of a Gross Weight up to 22 Ton) Pt II Location and Height of Fifth Wheel Attachments of Tractors and Semi-Trailers (Class I) Pt III Location and Height of Fifth Wheel Attachments on Tractors and Semi-Trailers (Class II) Pt IV Fifth Wheel Kingpin (for Semi-trailers of a Gross Weight from 22 to 72 Ton)	03-30 03-40 03-90 03-160
4015 MMS	Pt I Starter Battery Spaces for Wheeled Tactical Vehicles Pt II Sizes and Position for Starter Battery Terminal Posts for Wheeled Tactical Vehicles	08-10
4019 MMS	Emergency Towing Facilities	
4040 MMS	Waterproof Electrical Connectors	08-10
4043	Cooling System Hoses for Wheeled Transport Tactical Vehicles	03-20
4044 LAND	Adoption of a Standard Atmosphere	10-20
4074 MMS	Auxiliary Power Unit Connections for Starting Combat and Tactical Vehicles	08-10

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STANAG	TITLE	RELEVANT AVTPS
4107 MMS	Mutual Acceptance of Government Quality Assurance	various
4108 MMS	Allied Quality Assurance Publications (AQAPs)	various
4145 LAND	Nuclear Survivability Criteria for Armed Forces Material and Installa- tions AEP-4	04-20
4158 LAND	Guidelines for Classifying Incidents for Reliability Estimation of Tracked and Wheeled Vehicles	00-09 11-10 11-20
4164 LAND	Test Procedures for Armour Perfora- tion Tests of Direct Fire Armour Defeating Ammunition	04-10 04-40
4165 MMS	Allied Materiel Standards	various
4174 MMS	Allied Reliability and Maintainabi- lity Publications	00-09 02-10 11-30
4190 LAND	Test Procedures for Measuring Behind-Armour Effects of Anti- Armour Ammunition	04-40
4195 LAND	NATO Standard Engine Laboratory Test (Diesel and Gasoline Engines and Gas Turbine Engines) -AEP-5	13-
4234 MMS	Electromagnetic Radiation (Radio Frequency) 200 kHz to 40 GHz Environment - Effecting the Design of Materiel for Use by NATO Forces	08-20
4242 MMS	Vibration Tests for Materiel Carried in Tracked Vehicles	10-30
4243 MMS	Vibration Tests for Materiel Carried in Wheeled Vehicles	10-30

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STANAG	TITLE	RELEVANT AVTPS
4316 LAND	Design Specifications and Guidelines for Vehicle Radar Signatures	05-30
4318 LAND	Design Specifications and Guidelines for Vehicle Acoustic Signatures	03-150 05-60
4319 LAND	Design Specifications and Guidelines for Vehicle Thermal Signatures	05-20
4320 LAND	Specification of Shock Environments for Equipment to Withstand Ballistic and Blast Shock	04-10
4328 LAND	Implementation of the Guidelines for the Armoured Fighting Vehicles Designer to Improve Nuclear Radiation Protection - AEP-14	04-20
4349 LAND	Measurement of Minimum Resolvable Temperature Difference (MRTD) for Thermal Imaging Systems	05-20
4357 LAND	Allied Vehicle Testing Publications	various
4358 LAND	Mutual Acceptance of Government Vehicle Test and Evaluation	various
4359 LAND	Implementation of the Handbook for the Sampling Identification of Chemical Warfare Agents (AEP-10)	04-30
4370 MMS	NATO Environmental Conditions and Test Procedures	10-10

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ANNEX B: List of APs an relevant AVTP's

AP	TITLE	RELEVANT AVTPs
AEP-7 LAND	Chemical Defence Factors in the Design of Military Equipment	04-30
AEP-9 LAND	NATO MANUAL of Simulators of Nuclear Weapon Effects	04-20
AEP-18 LAND	EMP Test Methods and Procedures	04-20
AEP-22 LAND	Design Considerations for the Protection against TREE*	04

\*TRANSIENT RADIATION EFFECTS ON ELECTRONICS

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ANNEX C: Abbreviations

STANAG	Standardization Agreement
AP	Allied Publication
LAND	Land Armaments Section Defence Support Division International Staff
MMS	Material Management Systems Section Defence Support Division International Staff
AVTP	Allied Vehicle Test Publication
AQAP	ALLIED Quality Assurance Publication
AECP	Allied Environmental Conditions Publication
AEP	Allied Engineering Publication